

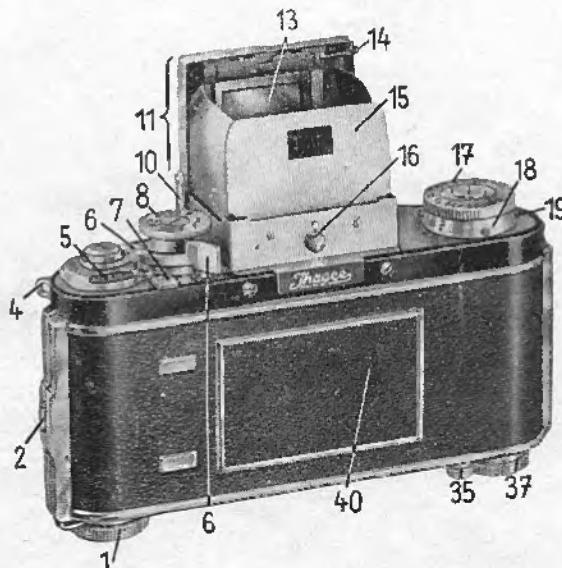
# EXAKTA



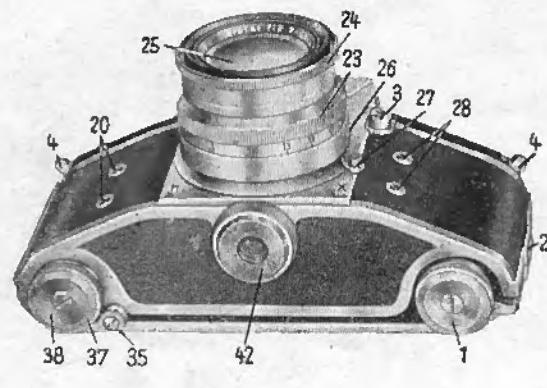
The Two-System Camera  
for Miniature Photography  $1\frac{1}{2} \times 1$  in.  
with two alternative focusing systems:

reflex finder-hood  
and Special Penta Prism

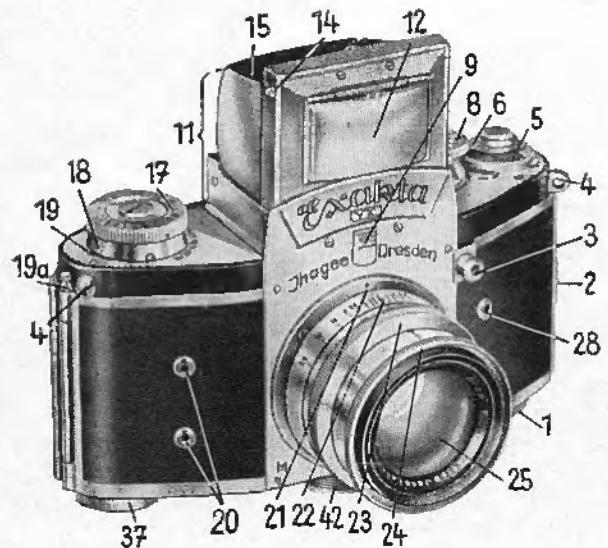
## Instruction Booklet



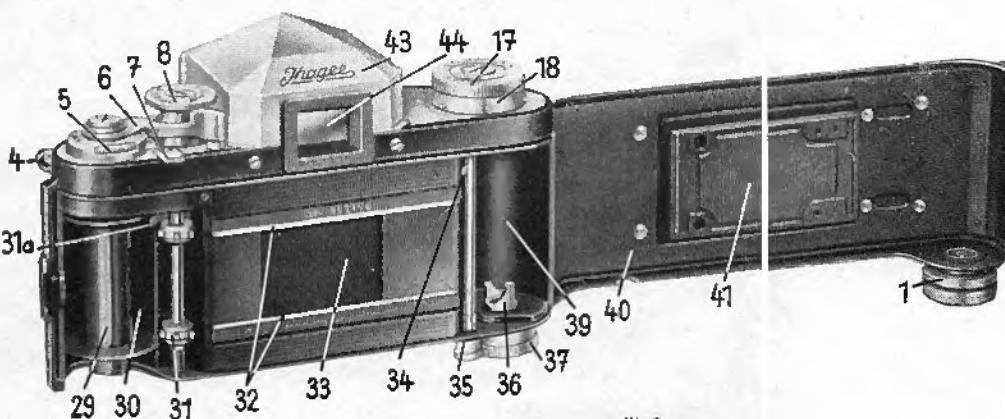
III. 3



III. 4



III. 1



III. 2

#### 44 important camera parts

- 1 = button for opening camera-back (see also Ill. 4)
- 2 = camera-back lock (operated by button No. 1)
- 3 = shutter release knob
- 4 = neck-strap eyelets
- 5 = exposure counter
- 6 = film transport lever and shutter winder
- 7 = rewinding reverse lever
- 8 = fast speed knob for  $1/25$  -  $1/1000$  sec., "T" and "B"
- 9 = finder-hood and Special Penta Prism release
- 10 = lever (lacking shutter when finder-hood is closed)
- 11 = reflex finder-hood
- 12 = cover of hinged focusing magnifier
- 13 = focusing magnifier (folded down)
- 14 = release button for No. 13
- 15 = back wall of finder-hood with frame-finder back sight
- 16 = finder-hood catch
- 17 = slow speed ( $1/5$  - 12 sec.) and delayed-action ( $1/5$  - 6 sec. with delaying time) knob
- 18 = film-speed indicator
- 19 = control disc for film transport
- 19a = pin of camera-back hinge

- 20 = "M" flashbulb contact sockets
- 21 = red mark on camera body (important when changing lenses)
- 22 = depth of field scale
- 23 = distance ring
- 24 = strap ring
- 25 = lens
- 26 = red mark on lens
- 27 = lens bayonet catch
- 28 = "X" electronic flash contact sockets
- 29 = take-up spool for exposed film
- 30 = film chamber for take-up spool or cassette
- 31 = film transport sprockets
- 31 a cassette holder
- 32 = film guides
- 33 = film gate
- 34 = knife for cutting exposed film
- 35 = knife release
- 36 = split shaft of film rewinding knob
- 37 = film rewinding knob
- 38 = central part of film rewinding knob (Press before rewinding!)
- 39 = film chamber for feeder cartridge (unexposed film)
- 40 = hinged camera-back (interchangeable)
- 41 = film pressure plate
- 42 = camera retaining screw
- 43 = Spezial Penta Prism
- 44 = ocular of Spezial Penta Prism

### **How to open and shut the camera-back**

Pull out button (1) and turn it either to the left or the right until it snaps into position. Open camera-back (40). When closing the camera, press back (40) lightly towards camera body. Turn button (1) clockwise or anticlockwise until it becomes locked in its neutral position. — If a special camera-back is to be used, extract the pin (19a) and the back (40) will become disengaged.

### **How to open and shut the finder-hood**

Press catch (16) and the finder-hood opens automatically into working position. — In order to shut the finder-hood (11), fold down the side-walls, the back-wall (15), and finally the front part until it is heard to slip into the catch. — As long as the finder-hood is closed, the shutter cannot be released!

### **Shutter and film transport**

are coupled so that there is no danger of double exposures. The shutter is released by pressing the release knob (3); winding the lever (6) winds up shutter and transports film. Always wind lever (6) as far as it will possibly go and let it spring back and stop it with thumb. If lever (6) does not return to its neutral position, it is impossible to release! Reflex ground-glass image will be visible only after shutter has been wound up.

### **Setting shutter speeds**

**Fast speeds from  $\frac{1}{50}$  to  $\frac{1}{1000}$  sec.:** Lift knob (8) up either before or after winding the shutter, turn it in the direction of the arrow so that the exposure time required comes to lie opposite the index mark on the knob centre, and let knob (8) drop back. The engraved figures indicate fractions of seconds, so e.g. 25 means  $\frac{1}{25}$  sec. etc.

**Long-time exposures:** Set button (8) to "T" or "B". — "T" = Shutter will open upon pressure of release knob (3) and a

second pressure will close it again. — "B" = Shutter will remain open as long as release knob (3) is pressed.

**Automatic speeds from  $\frac{1}{5}$  to 12 sec.:** Wind shutter and set fast speed knob (8) to "T" or "B". Now wind slow speed knob (17) clockwise as far as it will go (winding up slow speed mechanism). Lift slow speed knob (17) up and turn it until the required **speed in black** is opposite the index mark on the knob centre, and let knob (17) drop back.

**Delayed-action release (self-timer):**

- Shutter speeds from  $\frac{1}{5}$  to 6 sec.:** Proceed as described above, but bring required **speed in red** against index mark.
- Shutter speeds from  $\frac{1}{25}$  to  $\frac{1}{1000}$  sec.:** Do not set fast speed knob (8) to "T" or "B", but to the speed required (e.g.  $\frac{1}{100}$  sec.). Then wind slow speed knob (17) as described above, and, lifting it up, bring **any speed in red** against index mark.

**Note:** **Black figures** of the slow speed knob (17) will give **immediate exposure, red ones** exposure after a "**delayed-action time**" of about 12 sec. (self-timer).

A cable release can be screwed into the shutter release knob (3).

### **Lenses and focusing**

The lenses (25) are interchangeable: Press lens catch (27) (III.4) towards lens, turn lens to the left until the red marks on camera and lens (21 and 26) come to lie opposite each other, and the lens can be lifted from the camera body. — To insert a lens, the procedure is reversed.

Focusing is effected by turning the distance ring (23). The diaphragm is adjusted by turning the stop ring (24). Low figures (2 / 2.8 / 3.5) = large aperture = short exposure time, but little depth of field — high figures (22/16) = small oper-

ture = longer exposure time, but great depth of field. The depth of field scale engraved on the lens mount has the aperture values on either side of the distance indicator. The distance figures lying against the aperture required indicate the extent of sharpness to the foreground and to the background.



The stop ring of pre-set diaphragm lenses possesses adjustable click stops. When using ZEISS lenses (f/3.5 50mm, TESSAR, f/2.8 50mm, TESSAR, f/2 58mm, BIOTAR) draw the milled ring behind the diaphragm stop scale towards the camera and turn the stop ring until the aperture figure required for the exposure comes to lie opposite the red dot. Then let the milled ring spring back. Now it is possible to view and focus at full aperture. Immediately before releasing — and without changing the taking position of the camera — turn the stop ring as far as it will go, i. e. up to the "pre-set diaphragm" stop.

#### **The finder-hood**

The reflex image is magnified by the ground-glass, a plano-convex lens. In order to use the built-in magnifier for critical focusing (13)(III. 3), swing it up by pushing release button(14) up. To bring magnifier(13) back to its neutral (vertical) position, the procedure is reversed. When using the magnifier(13), hold the camera close to your eye. — Control of ground-glass image is also possible when turning camera up-side down and looking up into the finder-hood. Vertical pictures may be taken at right angles to the subject. — The finder-hood can be adjusted for open direct vision: bring magnifier(13) into working position, swing cover(12) forward, and look through the rectangular backsight in the finder-hood (15). — Before exchanging the finder-hood (11) make sure that it is closed. Then press down release (9) and lift the closed finder-hood (11) from the camera body. — When replacing the finder-hood care must be taken that the shutter locking lever (10) (III. 3) is correctly inserted into the opening in the camera top plate. Press finder-hood gently towards camera base until it is heard to slip into the catch, but do not use force.

#### **Special Penta Prism**

The Special Prism allows of always holding the camera at eye-level and provides a laterally correct, upright image for both vertical and horizontal shots, and so it is ideal for sports and speeds shots. As the direction of movement in the liner is the same as that of the subject, it is an easy matter to follow the subject by moving the camera in the same direction in the case of extreme speeds (motor-car races). The Special Prism is inserted into and removed from the camera in the same

way as the finder-hood, but it does not possess a shutter-tacking lever (10). A Special Prism eyepiece is available as an accessory.

#### **Loading the camera**

The EXAKTA VX uses perforated miniature cine-film of 35 mm. width for 36 exposures  $1\frac{1}{2} \times 1$  in. (24 × 36 mm.) on a strip of the usual length of 5 ft.  $5\frac{1}{8}$  in. (1.60 m.). — Open camera back and pull out rewinding knob (37.) Insert cassette or cartridge with unexposed film into film chamber (39). Push back rewinding knob (37) by pressing its rim towards camera while at the same time turning it. Care must be taken that not only the central part (38) (Jll. 4) of rewinding knob is pushed back! Make sure that the film runs straight along the film guides (32) to the take-up spool (29) in the film chamber (30), emulsion side showing towards the lens, and push free end of film under the spring tongue of the take-up spool (29). It is also possible to remove the take-up spool (29) from the camera in order to fix the film. When replacing take-up spool (29) care must be taken that the split shaft (6) of the film transport lever (6) engages in the recessed end of the centre spool. The perforation of the film should engage correctly in the teeth of the film sprockets (31). Close camera back. Now two blind exposures must be made: If no ground-glass image is visible, wind film transport lever (6) as far as it will go and release (First blind shot). Wind lever (6) again and release again (Second blind shot). Wind lever (6) a third time up to the stop and the first unexposed piece of film is brought into position in the film gate (33). The exposure counter (5) is set by turning the exposure counter disc with the thumb in the direction of the arrow until the index line preceding "1" comes to lie

opposite the indicator (The exposure counter disc advances after the exposure!).

Now the camera is ready for practical work. — Instead of the take-up spool (29) a take-up cassette (an empty cartridge) may be inserted into the film chamber (30). Fix film end on centre spool and insert cassette so that the split shaft of the film transport lever (6) engages in the recessed end of the centre spool. The film must be wound up emulsion side inwards. The control disc (19) permits the film transport to be controlled. It will turn as long as the centre spool of the feeder cartridge rotates. — The film-speed indicator (18) shows the type of film the camera is loaded with: BW = black-and-white,

black C = colour, daylight,  
red C = colour, artificial light.

By turning the ring (18) the respective letter is brought against the film speed number engraved on camera ta plate.

#### **Unloading the camera**

Even after the 36th exposure one or two more exposures can be made, until the film transport lever (6) cannot be wound any more. When using the take-up spool (29), it is necessary to rewind the exposed film into the cartridge: fold up reversing lever (7), press inwards central part (38) of rewinding knob (37) and turn knob (37) clockwise. As long as the film is being rewound the control disc (19) and the slotted axle of the film transport lever (6) will rotate. Once the film is rewound into the cartridge the slotted axle (6) will stop turning. Now open camera, pull rewinding knob (37) outwards and take out the cartridge with the exposed film. Push back rewinding knob (37) by pressing its rim towards the camera. Fold down reversing lever (7), which will be pushed into the correct (folded down)

position automatically, as soon as the film transport lever (6) is wound. — Should the film transport lever (6) stop midway and refuse to move up to the stop, as there is no film left in the cartridge, fold up reversing lever (7) and wind transport lever (6) up to the stop. Now fold reversing lever down again so that the lever (6) can return to its normal position.

When using a take-up cassette there is no need for rewinding. As soon as the film is used up, the film transport lever (6) will refuse to operate. Now cut off the film with the built-in film cutting knife (34); unscrew milled knob (35) and pull it towards the bottom of the camera (about  $1\frac{1}{2}$  in.). Then push knob (35) back and screw it in again. Before opening the camera, make two blind exposures so that the free end of the film will disappear into the take-up cassette. — The procedure is the same when exposed film parts are to be removed from the camera in a take-up cassette.

#### **Flash contact sockets**

The EXAKTA VX possesses synchronized contact sockets for flashbulbs and electronic flash units.

An EXAKTA Flashgun using flashbulbs (Vakublitz) is available complete with instruction booklet. When using typical synchron flashbulbs (OSRAM S 2, PHILIPS PF 45) the flashgun connecting cord is plugged into the "M" pair of contact sockets (20) on the left hand front wall of the camera (below slow speed knob 17). Details about instances in which the "X" contact sockets (28) must be used, will be found in a special leaflet. — Electronic flash-tubes can be released with speeds of  $1/60$  sec. or more. In this case the connecting cord must be plugged into the "X" pair of contact sockets (28) on the right hand side of the camera front wall, below fast speed knob (8).

#### **Useful EXAKTA Accessories**

- EXAKTA Everready Leather Case
- EXAKTA Special Penta Prism
- EXAKTA Special Lenses with focal lengths ranging from 40 mm. to 500 mm.
- EXAKTA Flashgun
- EXAKTA Extension Tubes and Adapter Rings
- EXAKTA Microscope Attachments I & II
  - Focusing Glasses for photomicrographic work for Special Penta Prism and Finder-Hood with clear centre spot and hairline cross
- EXAKTA Rangefinder Focusing Glass
- EXAKTA Stereo Attachment and Stereo Finder
- EXAKTA Multi Combination for slide-making, photomicrography, copy work, close-up work, stereo photography with adjustable base
- EXAKTA Adapters for medical instruments (endoscopes, cystoscopes, &c.)
  - Wide range of smaller accessories:  
filters, soft-focusing discs, lens hoods, eye-piece  
for Special Penta Prism, Giant Release Button

- Literature:
- 1) EXAKTA VX
  - 2) Macrophotography — Photomicrography
  - 3) Flash Technique
  - 4) New Uses with EXAKTA

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